

**10/586374****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Donald, Robert G.K.; Liberator, Paul; Zhong, Xiaotian

**AP20 Rec'd PCT/PTO 14 JUL 2006**

Serial No. To be assigned

Art Unit: To be assignedFiled: HerewithExaminer: To be assignedFor: COCCIDIAN PARASITE CASEIN KINASE I AS A  
CHEMOTHERAPEUTIC TARGET FOR  
ANTIPROTOZOAL AGENTSCommissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR 1.97**

Sir:

1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).
2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.
3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.
4. Pursuant to 37 C.F.R. 1.98 (a)(2)(ii), copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

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# INFORMATION DISCLOSURE STATEMENT

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5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

RELATED APPLICATION		
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If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

- ☒ the attached information is filed within three months of the filing date of the captioned case.
- ☐ the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.
- ☐ the attached information is filed before the mailing of a first Office action after the filing of a request for continued examination under §1.114.
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- ☐ each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.
- ☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart application *and this communication was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of the information disclosure statement.*
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,

*Laura M. Ginkel*

By: Laura M. Ginkel

Attorney \_\_\_\_\_ For Applicant(s)

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MERCK & CO., INC.

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Date: *July 14, 2006*

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>COMPLETE IF KNOWN</b>		
			Application Number	To be assigned	
			Filing Date	2005/06/27	
			First Named Inventor	Donald, Robert G.K.	
			Group Art Unit	To be assigned	
			Examiner Name	To be assigned	
Sheet	1	of	3	Attorney Docket Number	21554P

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	A	DONALD, ROBERT, G.K., ET AL., Molecular & Biochemical Parasitology, "Characterization of two <i>T. gondii</i> CK1 isoforms", Vol. 141, pages 15-27, 2005.
	B	KNOCKAERT, M., ET AL., Chemistry & Biology, "Intracellular targets of cyclin-dependent kinase inhibitors: identification by affinity chromatography using immobilised inhibitors", Vol. 7, pages 411-422, 2000.
	C	NCBI Sequence, Nucleotide Database, GenBank Accession No.: BM175598, 2001.
	D	NCBI Sequence, Nucleotide Database, GenBank Accession No.: T62400, 1995.
	E	NCBI Sequence, Protein Database, GenBank Accession No.: AAS46019, 2004.
	F	NCBI Sequence, Protein Database, GenBank Accession No.: AAS46020, 2004.
	G	NCBI Sequence, Protein Database, GenBank Accession No.: AAS46021, 2004.
	H	ALLEN, P.C., ET AL., Clinical Microbiology Reviews, "Recent advances in biology and immunobiology of <i>Eimeria</i> species and in diagnosis and control of infection with these coccidian parasites of poultry", Vol. 15, No.: 1, pages 58-65, 2002.
	I	BARIK, SAILEN, ET AL., The Journal of Biological Chemistry, "Identification, cloning, and mutational analysis of the casein kinase 1 cDNA of the malaria parasite, <i>Plasmodium falciparum</i> ", Vol. 272, No.: 42, pages 26132-26138, 1997.
	J	BEHREND, LARS, ET AL., European Journal of Cell Biology, "Interaction of casein kinase 1 delta (ck1 ) with post golgi structures, microtubules and the spindle apparatus", Vol.79, pages 240-251, 2000.
	K	CALABOKIS, MARITZA ET AL., Parasitology International, "Biochemical and enzymatic characterization of partially purified casein kinase-1 like activity from <i>Trypanosoma cruzi</i> ", Vol. 51, pages 25-39, 2002.
	L	COHEN, PHILIP, ET AL., Nature Reviews, Drug Discovery, "Protein kinases-the major drug targets of the twenty-first century?" Vol. 1, pages 309-315, 2002.
	M	COOMBS, G.H., ET AL., International Journal for Parasitology, "Recent advances in the search for new anti-coccidial drugs", Vol. 32, pages 497-508, 2002.
	N	DONALD, ROBERT G.K., ET AL., Eukaryotic Cell, " <i>Toxoplasma gondii</i> cyclic GMP-dependent kinase: chemotherapeutic targeting of an essential parasite protein kinase", Vol. 1, No.: 3, pages 317-328, 2002.
	O	DONALD, ROBERT, G.K., ET AL., Molecular & Biochemical Parasitology, "Molecular characterization of a coccidian parasite cGMP dependent protein kinase", Vol. 120, pages 165-175, 2002.

Examiner Signature		Date Considered	
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\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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			Application Number	To be assigned	
			Filing Date	10/586374	
			First Named Inventor	Herewith Donald, Robert G.K.	
			Group Art Unit	To be assigned	
			Examiner Name	To be assigned	
Sheet	2	of	3	Attorney Docket Number	21554P

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	P	NCBI ESI Sequence, Nucleotide Database, Accession No.: CD345581, 2003.
	Q	GROSS, STEFAN D., ET AL., Cell. Signal., "Casein kinase I: spatial organization and postioning of a multifunctional protein kinase family", Vol. 10, No.: 10, pages 699-711, 1998.
	R	GURNETT, ANN M., ET AL., The Journal of Biological Chemistry, "Purification and molecular characterization of cGMP-dependent protein kinase from Apicomplexan parasites", Vol. 277, No.: 18, pages 15913-15922, 2002.
	S	HOPKINS, ANDREW L., ET AL., Nature Reviews, Drug Discovery, "The druggable genome", Vol. 1, pages 727-730, 2002
	T	KAPPES, B., ET AL., Parasitology Today, "An overview of Plasmodium protein kinases", Vol. 15, No.: 11, pages 449-454, 1999.
	U	KLIMCZAK, LESZEK J., ET AL., Plant Physiol., "Multiple isoforms of Arabidopsis casein kinase I combine conserved catalytic domains with variable carboxyl-terminal extensions", Vol. 109, pages 687-696, 1995.
	V	LI, LI, ET AL., Genome Research, "Gene discovery in the Apicomplexa as revealed by EST sequencing and assembly of a comparative gene database", Vol. 13, pages 443-454, 2003.
	W	MORENO-BUENO, GEMA, ET AL., Biochem. Journal, "Isolation and characterization of casein kinase I from <i>dictyostelium discoideum</i> ", Vol. 349, pages 527-537, 2000.
	X	NARE, BAKELA, ET AL., Antimicrobial Agents and Chemotherapy, "Evaluation of cyclic GMP-dependent protein kinase inhibitor in treatment of murine toxoplasmosis: gamma interferon is required for efficacy", Vol. 46, No.: 2, pages 300-307, 2002.
	Y	NG, SZU-TING, ET AL., Experimental Parasitology, "Comparative EST analyses provide insights into gene expression in two asexual developmental stages of <i>Eimeria tenella</i> ", Vol. 101, pages 168-173, 2002.
	Z	ROBINSON, LUCY C., ET AL., Molecular Biology of the Cell, "The Yck2 yeast kinase 1 isoform shows cell cycle-specific localization to sites of polarized growth and is required for proper septin organization", Vol. 10, pages 1077-1092, 1999.
	AA	SACERDOTI-SIERRA, NINA, ET AL., The Journal of Biological Chemistry, "Release of ecto-protein kinases by the protozoan parasite <i>Leishmania major</i> ", Vol. 272, No.: 49, pages 30760-30765, 1997.
	AB	SPADAFORA, CARMENZA, ET AL., Molecular & Biochemical Parasitology, "Two casein kinase 1 isoforms are differentially expressed in <i>Trypanosoma cruzi</i> ", Vol. 124, pages 23-26, 2002.
	AC	VIEIRA, LITA, L., ET AL., International Journal for Parasitology, "Effect of pH and temperature on protein kinase release by <i>Leishmania donovani</i> ", Vol. 32, pages 1085-1093, 2002.
	AD	VIELHABER, ERICA, ET AL., IUBMB Life, "Casein kinase I: from obscurity to center stage", Vol. 51, pages 73-78, 2001.

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**To be assigned**

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Herewith

**Donald, Robert G.K.**

**To be assigned**

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21554P

**Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.**

**AE**

YU, SIDNEY, ET AL., Molecular Biology of the Cell, "Casein kinase I regulates membrane binding by ARF GAP1", Vol. 13, pages 2559-2570, 2002.

Date  
Considered

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